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CULTURE AND ENVIRONMENT¹

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The dependence of culture on physical environment is a time-honored problem. The degree and nature of their interrelations have been variously estimated by different writers and continue to occupy the minds of ethnologists, historians, and sociologists. Following the lead of Buckle, historians have often attempted to interpret culture in terms of its physical environment,² and a similar tendency is noticeable among ethnologists, particularly since the time of Ratzel. A gifted modern writer on geography, Miss Ellen Churchill Semple, building on the foundations laid by Buckle and Ratzel, has constructed an elaborate and apparently self-sustaining system of historical and cultural interpretations based on environmental influences. Attempts to express national and racial traits in terms of physical environment continue to impress our minds and carry conviction. I propose in the following pages to discuss the general relations of culture and environment in the hope of clarifying some of the theoretical issues involved.

Before proceeding with our argument attention must be drawn to the types of causal interpretations applicable in historical problems. On the one hand, we may be interested in following up all the antecedents of a given event or cultural phenomenon. Strictly speaking, there is no limit to such an inquiry; what we obtain is, to speak with Spencer, a regressive multiplication of causes. On the other hand, we may be interested in studying the direct causes of a phenomenon, disregarding their antecedents, and thus secure an insight into the character of those factors that appear as causes of cultural changes. Thus the environmentalist will often agree with the anti-environmentalist that certain changes in a culture

¹ A lecture read before a joint meeting of anthropologists and geographers, on February 19, 1914, at New Haven, Connecticut.

² A striking recent example will be found in Myres's *The Dawn of History*.

may be due, not to the influence of its physical environment, but to certain cultural features introduced from another group; but, objects the environmentalist, these cultural features were, in their turn, produced by the physical environment of the group from which they are derived. Now, even if true, this retort is irrelevant to the issue, if what we are interested in is to ascertain what kind of factors appear as causes of cultural phenomena rather than to follow up each factor to its ultimate traceable antecedents. Another consideration to be kept in mind is that a factor may be regarded as a determinant of a cultural phenomenon only if the phenomenon necessarily follows from that factor and from it alone. If other factors are involved, each may only be regarded as a partial cause of the phenomenon, as a codeterminant.

Let us now examine the proposition, often made, that the material culture of a group, particularly in primitive society, is determined by its physical environment. The snow house of the Eskimo is thus said to be determined by the Eskimo's arctic *milieu*, the wood industries of the Northwest coast natives by the cedar forests of that area. Now while it will be admitted that snow is a *conditio sine qua non* of snow houses and that the elaborate wood-carvings of the Northwest coast would probably never have developed in the absence of the cedar forests, neither of these two factors may be regarded as a determinant. The refutation is right at hand: the Siberian Chukchee, whose environment is practically identical with that of the Eskimo, have no snow houses, while the natives of California, whose forests excel even those of the Northwest coast, have scarcely any wood industry and specialize in basketry. Moreover, even in primitive society the historical factor may not be neglected. Tribes often utilize materials not found in their own locality: thus the Toda of Southern India use pots imported from the Tamil, while the Australian Dieri travel some 300 miles to secure the pituri root cultivated by the natives of Central Queensland. And as we pass from primitive to more civilized conditions, the dependence of the material culture of a group on its physical environment becomes less and less conspicuous. Nor is this all. While it may be stated as a general proposition that the materials utilized by a group for its dwellings, means of

conveyance, clothing, and food are largely dependent on the flora and fauna of the region, the determination thus disclosed has but a limited cultural significance. If, for instance, one classifies the cultures of a number of tribes according to the materials utilized by them in their industries and for food, the resulting grouping will not represent the cultures of the tribes but the flora and fauna of the different regions; for there is more to a house or canoe or garment than the material it is made of, more to food than the animal or vegetable substance it contains.

Our suspicions are at once aroused against any attempt to represent physical environment as a determinant of culture when we consider that culture is essentially dynamic while environment is static. Notwithstanding the conservatism inherent in all culture, the culture of the most primitive group changes as the generations go by, while the physical environment remains unchanged. And even in historic society the physical environment changes but little when compared with the tremendous transformations of culture. Miss Semple sees in this permanence of the environment an argument for the environmentalist: the environment alone is always there and it changes but little; hence it alone can exert a lasting effect, and the accumulated weight of its influences must be enormous. In reality, however, the situation resolves itself into a strong presumption in favor of the opposite camp. For, if the same environment conditions a continuous series of cultural transformations, or, to put it differently, a series of slightly different cultures, either the environment in its entirety is active all the time, and then some extra-environmental cause must account for the difference of effect, or different sides of the environment come into action at different periods, in which case some extra-environmental cause must determine the selection.

The latter alternative does indeed correspond to reality. As culture progresses, new sides of the environment come into play or old sides are being utilized to better advantage. Suppose environment = E , culture = C . Then, if the environmental feature is a favorable one, the result may be represented as $E \cdot C$. If the environmental feature is a negative one, the result will be E/C . Thus a river is a positive feature for communication along its course; it is such even with most primitive methods of navigation,

but its utility vastly increases as the sailor takes the place of the canoe, and the steamer that of the sailor. On the other hand, the river is a negative feature from the point of view of communication between its shores; the hindrance is overcome by the canoe, then by a light bridge, good for pedestrians only, then by a solid structure which serves to carry a street across the river.

This is only one instance of the continuous action of environment, which, however, is changed in its bearings through the intrusion of an extra-environmental factor, culture. A field continues to be an environmental feature when transformed by the application of agricultural appliances, but its cultural bearings are vastly modified, both in kind and in degree. Similarly the flora and fauna of a region, while continuing to constitute part of the environment of a group, become thoroughly different in their significance with the change in methods of hunting and plant gathering, in the preparation of food and industrial utilization of animals and plants, in the domestication of animals and the cultivation of plants. As culture progresses it makes different uses of the same environment, and different cultures make different uses of similar or identical environments. In all such cases environment alone cannot be held accountable for the discrepant results. Environment absorbs culture and becomes saturated with it, and while it continues to be an active factor it is no longer environment alone which acts, but environment plus culture.

The culture-environment relation may be looked at from yet another standpoint. All culture may be conceived of as a resultant of invention and imitation, of progress and inertia, of radicalism and conservatism. How then do the inventor and the imitator, in the widest sense, appear in their dependence on culture and environment?

Now, it is not beyond the range of probability that certain features of the environment, which we know not, may favor or hinder the appearance in a group of inventors, innovators, reformers.¹ However that may be, the specific contributions of these

¹ It may be objected that innovators, reformers, etc., need not have inventive minds. This is true. The three terms used in the text must thus be understood to designate those individuals whose psychic caste tends toward originality, departure from the old, in practical thinking, theory, morality.

individuals depend altogether on culture. Richard Strauss, had he lived in Verdi's time, would have composed *Aida*; Beethoven, if a native of China, would certainly have written some of that music which jars so terribly on our ears; Raphael, if born in Bushmenland, may have decorated his cave with a steatopygous madonna; a paleolithic Edison may have conceived the first fire-making apparatus. Similarly, in abstract thought, in literature, in decorative art, in ethical theory, the specific contributions of the original minds of all times were determined by their cultural setting. The uniformity of inventions at given periods and within restricted culture areas illustrates the same proposition. With spreading internationalism and the effacement of sharply characterized cultural areas, the relative uniformity of inventions becomes an all but universal phenomenon.

We may now turn to the imitator, the standpatter, the conservative. Again, we may allow for the possibility that certain features in the environment, which we know not, may favor or check the development of those traits of the human mind which stand for the reception and faithful reproduction of ideas. But psychic inertia is a general trait of human, nay animal, psychology, and, as such, is quite independent of any specific environment. What is to be assimilated is determined by culture; the mechanism of reception, assimilation, reproduction of ideas is determined by human psychology; environment has nothing whatever to do with it.

Now both of these factors are fundamental prerequisites of culture. Inertia, the basis of conservatism, conditions the solid framework of society and makes culture possible. Invention, on the other hand—initiative—determines change, progress. In both of these respects culture is independent of environment.

All cultures, finally, are historical complexes. Every culture combines with traits that have originated within its own borders, other traits that have come from without, from other cultures, and have become amalgamated with the recipient culture. Now these foreign traits are obviously independent of the environment of the recipient culture. Thus, as a historical complex, every culture is largely independent of its environment.

These brief remarks will suffice to indicate that a large set of environmental influences, while actual, are not significant for culture; that in another set of cultural phenomena culture and environment co-operate and must be regarded as codeterminants; that in two of its fundamental aspects, that of invention and that of imitation, culture is independent of environment; and that, finally, every culture is largely independent of its environment in so far as it is a historical complex.

These considerations should not discourage us from studying the specific influences doubtless exerted by environment upon culture, but they might serve to emphasize the folly of any attempt to interpret any culture in terms of environment alone. Speaking with reservations, culture must be regarded as a closed and to a large extent self-sustaining system.